

I Claim:

1. A measuring device comprising a sensor arrangement (2) to record values, in particular angles and linear values, which produces at least two signals phase-shifted to one another as a continuous function and in which these signals are supplied to a measured value processor, wherein an adjustment unit (7) is connected in series to the sensor arrangement (2), which adjusts the amplitudes of the phase-shifted signals (41, 42) to one another and/or produces from phase-shifted signals (41, 42) signals which are out of phase by about 90° , which are then evaluated and outputted for further processing.
2. The measuring device as recited in claim 1, wherein adjustment takes place at the times when the phase-shifted signals intersect the common reference.
3. The measuring device as recited in claim 1, wherein the phase-shifted sensor signals have sinusoidal values.
4. The measuring device as recited in claim 1, wherein for any phase-shifted values the 90° phase-shift results from addition or subtraction of the values.
5. The measuring device as recited in claim 1, wherein the common reference is created by producing the average value of at least two values phase-shifted by 90° .

6. The measuring device as recited in claim 1, wherein the common reference is firmly set.
7. The measuring device as recited in claim 1, wherein for non-symmetrical, calculated amplitudes of the particular values, their reference is suitably adjusted in the adjustment unit.
8. The measuring device as recited in claim 1, wherein the non-symmetrical, calculated distances of the intersections of the particular values with the common reference are calculated by taking into account their adjustment speed and their particular reference is correspondingly adjusted in the adjustment unit.
9. The measuring device as recited in claim 1, wherein the values resolved by an interpolator are calculated by taking into account their adjustment speed and, if they fluctuate from one another, their amplitudes are adjusted accordingly.
10. The measuring device as recited in claim 1, wherein the distances of the sensors from one another are chosen independently of the scale division.
11. The measuring device as recited in claim 1, wherein the

same measuring device is used for varying scale divisions.

12. The measuring device as recited in claim 1, wherein two values phase-shifted by 90° and an additional value phase-shifted by 180° are created from the phase-shifted signals and used for evaluation.

13. The measuring device as recited in claim 1, wherein the adjustment unit (7) and preferably also the whole electronics unit (8) including the sensor arrangement (2) are located on an ASIC equipped with fixed hardware functions for an integrated or mounted encoder (1, 200).